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ABSTRACT

Alzheimer's disease is an insidious, progressively destructive brain disease which leads to the loss of judgment, communication skills, and psychomotor control preventing the victim from living independently. The consequences of caring for victims include emotional, physical, and familial strain as the caregiver is faced with the progressive psychological deterioration of the victim. This study examined three levels of variables hypothesized to be related to distress and adaptation among caregivers of victims of Alzheimer's disease or a related disorder. These are: (1) intrapersonal variables; (2) interpersonal variables; and (3) support from the wider social network. Subjects were 85 female caregivers of non-institutionalized dementia patients, nearly all of whom were spouses or daughters of the victim. Results showed no significant relationships between caregiver age, family status, socioeconomic status, employment, and distress. Coping style was related to health, appraisal, family support, and distress. The quality of the caregiver-patient relationship was significantly associated with health, coping, and distress. Qualitative variables were more predictive of distress than were quantitative variables. The majority of the variance in distress was accounted for by the use of avoidant coping strategies, followed by caregiver health and family support. Eighty-nine references are provided. (AUthor/ABL)

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Distress and Coping Among Caregivers of Victims of Alzheimer's Disease

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Abstract

Three levels of variables hypothesized to be related to distress and adaptation among caregivers of victims of Alzheimer's Disease or a related disorder were explored: intra-personal variables, interpersonal variables, and support from the wider social network. Results from 85 female caregivers of non-institutionalized dementia patients indicated that the caregivers were significantly more distressed than a normative sample. There were no significant relationships detected between caregiver age, family status, socioeconomic status, employment, and distress. Coping style was related to health, appraisal, family support and distress. Though type of caregiver-patient relationship did not correlate with caregiver distress, the quality of their relationship was significantly associated with health, coping, and distress. Family support was related to distress and coping. In general, qualitative variables (i.e. quality of caregiver-patient relationship, supportive family interactions...) were more predictive of distress than quantitative variables (i.e. age, marital status, frequency of support group attendance...). The majority of the variance in distress was accounted for by the use of avoidant coping strategies, followed by caregiver health and family support.

Distress and Coping Among Caregivers of Victims of Alzheimer's Disease

The older population in the United States has been increasing steadily throughout this century. Current projections estimate that there will be an increase from the present ratio of 1 in 9 Americans over age 65 to 1 in 5 in that group by 2030 (Heckler, 1985). Despite the fact that cognitive decline is not a normal consequence of aging, a large number of aging individuals face cognitive impairment (Brill, 1984; Reisberg, 1983; Schneider & Emr, 1985; Ware & Carper, 1982). According to Zarit, Orr, and Zarit (1985, p.1), "the dementias are the most devastating and dreaded disorders of later life." The most common of the irreversible dementias is Senile Dementia of the Alzheimer Type (SDAT), also known as Alzheimer's Disease (AD). It is a primary degenerative disease of the brain which leads to severe intellectual impairment. Currently, it afflicts over 2 million American adults (Gwyther, 1985).

Alzheimer's Disease is an insidious, progressively destructive brain disease involving gradual deterioration of intellectual functioning and accompanying physical decline. Major symptoms in the SDAT syndrome include changes in the cognitive, emotional and behavioral spheres. Over the 3 to 15 year course of the illness, the early cognitive difficulties lead to increasingly severe deficits in

functioning until independent living is impossible as judgment, communication skills and psychomotor control disintegrate (Mace & Rabins, 1981).

The consequences of caring for Alzheimer's Disease victims include emotional, physical and familial strain as the caregiver is faced with the progressive psychological deterioration of the victim (Cantor, 1983; Pratt, Schmall, Wright & Cleland, 1985; Ware & Carper, 1982; Zarit, Reever & Bach-Peterson, 1980). Despite the apparently overwhelming and significant sacrifices involved in caregiving, it continues to be a function which is largely fulfilled by the family. Contrary to the persistent myth of family abandonment of elderly to nursing homes, the majority of persons with dementia are cared for by family members in the community (Brody, Poulschock & Masciocchi, 1978; Cantor, 1983; Johnson & Catalano, 1983; Mindel, 1979; Rabins, 1984; Reifler & Wu, 1982). Families struggle to cope with an illness of unknown etiology that seems to defy differential diagnosis or medical treatment. Parent care has recently been termed "a normative family stress" (Brody, 1985).

Among the patient behaviors which caregivers frequently appraise as troublesome are memory disturbances; catastrophic reactions; demanding and critical behavior; wandering and restlessness; communication difficulties and hiding things (Gilleard, 1984; Mace & Rabins, 1981; Mann, 1985). The stressfulness of these behaviors depends on the meaning caregivers give to them. Some caregiver

interpretations or reactions are more likely to lead to effective coping responses than others (Morycz, 1985; Oliver & Bock, 1985; Zarit, Orr & Zarit, 1985). For example, challenge appraisals which result in active problem-solving have been associated with lower burden than less optimistic appraisals and passive responses (Pratt, Schmall, Wright & Cleland, 1985).

Caregivers themselves describe numerous problems including decreased social activities and personal time (Beam, 1984; Gilleard, 1984; Lezak, 1978; Mace & Rabins, 1981); sleep disturbances (Rabins, Mace & Lucas, 1982); financial burden (Sanford, 1975); and family tension related to role divisions and responsibilities (Kapust, 1982; Klein, Dean & Bogdonoff, 1967; Lansky, 1984; Savitsky & Sharkey, 1972). Emotionally, the experiences of caregivers include anger, embarrassment, resentment, helplessness, guilt, depression and worry (Baum & Gallagher, 1985/86; Hayter, 1982; Haug, 1985; Mace & Rabins, 1981; Mann, 1985; Zarit, Orr & Zarit, 1985). Loneliness is frequently reported as well (Lazarus, Stafford, Cooper, Cohler & Dysken, 1981; Barnes, Raskind, Scott & Murphy, 1981). Of the 55 caregivers of dementia patients surveyed by Rabins, Mace & Lucas (1982), 48 reported feeling angry, sad, depressed or tired most of the time.

It has been a common assumption in the literature that the severity of the patient's behaviorial disturbances is the major mediating factor in determining caregiver reaction and sense of burden. Although different caregivers are relatively consistent in

their descriptions of the types of behaviors they find disruptive and burdensome, recent research does not support a causal relationship between patient problems and family burden. Some families report high stress despite few behavior problems while others report little stress despite severe changes (Colerick & George, 1986; Gwyther & George, 1986; Kerns & Curley, 1985; Reece, Walz & Hageboeck, 1983; Scott, Roberto & Hutton, 1986; Zarit, Orr & Zarit, 1985). Factors which have been identified as important predictors of caregiver burden include (1) caregiver coping skills in managing memory and behavior problems (Pratt et.al, 1985; Ware & Carper, 1982; Zarit & Zarit, 1982; Zarit, Orr & Zarit, 1985); (2) social support available to the caregiver (Crossman, London & Barry, 1981; Morycz, 1980; Safford, 1980; Scott et al., 1986; Zarit & Zarit, 1983); and (3) the quality of the patient-caregiver relationship prior to the illness. Caregivers who report better relationships in the past seem to face current problems with less stress (Horowitz & Shindelman, 1983; Zarit, Orr & Zarit, 1985).

By clarifying the coping strategies used by caregivers of SDAT patients, it may be possible to identify the most effective strategies for dealing with specific behavior problems. Greater understanding of the family dynamics involved between caregivers and other family members will improve the chances of developing more reliable and effective interventions for the prevention of caregiver collapse. Additionally, any improvement in caregiver well-being will have an

indirectly beneficial impact on the Alzheimer's Disease patient. Several studies document the key role of family members in determining whether a patient will remain in the community or be institutionalized (Bergmann, Foster, Justice & Matthews, 1978; Crossman, London & Barry, 1981; Fengler & Goodrich, 1979; Reifler & Wu, 1982). The major reason for placement of an older dependent person in a nursing home has been identified as the family becoming physically, financially or emotionally exhausted from providing care, not because the patient's problems have worsened (Lowenthal, Berkman & Associates, 1967; Morycz, 1980; Morycz, 1985). Persons without close family are more likely to be institutionalized when they are old (Shanas, 1979). The implication is that early, appropriate interventions designed to assist families in coping with the stresses of caregiving will help to postpone or prevent costly nursing home admissions (Brody, Poulshock & Masciocchi, 1978; Sanford, 1975; Soldo & Myllyluoma, 1983; Zarit, Orr & Zarit, 1985). In addition, there is evidence to suggest that keeping the elderly individual near family members protects the patient from depression and/or suicide (Sainsbury & de Alarcon, 1970).

The vast majority of published work related to coping with Alzheimer's Disease consists of program reports, clinical descriptions and case studies which fail to view the problems of Alzheimer's Disease within the context of a sound theoretical framework. As a result, the development of stable hypotheses and the ability to compare studies have been limited (Kerns & Curley, 1985; Ory,

Williams, Emr, Lebowitz, Rabins, Salloway, Sluss-Radbaugh, Wolff & Zarit, 1985). The purpose of this study was to explore the variables that are thought to influence the levels of distress and subsequent adaptation experienced by caregivers of persons with Alzheimer's Disease or a related disorder. It was designed to increase understanding of Alzheimer's Disease caregivers' distress through the broader theoretical framework of Lazarus' Stress, Appraisal and Coping theory. The measurement of appraisal, coping and family support will be compared to specific patient behaviors which are rated as stressful by the caregivers and an index of symptomatic distress. The empirical studies to date have relied primarily upon assessment devices developed specifically for the given study with no attention to psychometric properties (Cohen & Wills, 1985; Kerns & Curley, 1985). A major goal of this study is to incorporate well-established measures in order to improve confidence and allow for comparisons among studies. The relationships among caregiver intra-personal variables, interpersonal variables, and general social support variables were each explored in relation to caregiver distress. Following the independent exploration of these three levels of variables, the relative contribution of each level (intra-personal, interpersonal, wider social support) to caregiver distress was determined.

Stress, Appraisal and Coping

The consequences of stress have been linked to suppression of the immune system and increased susceptibility to a wide range of both

somatic and psychosomatic illnesses (Antonovsky, 1979; Billings & Moos, 1982; Lazarus, 1974; Lazarus & Folkman, 1984; Singer, 1984). In the transactional view of stress response delineated by Lazarus and Folkman, "psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). From this perspective, the key variables in the identification of a stimulus as a stressor and subsequent adaptation to the stress are appraisal and coping.

Despite exposure to similarly difficult stressors, it is apparent that different people react, cope, and adapt differently. These individual variations might best be understood by examining the cognitive processes, such as appraisal, which intervene between the stressful encounter and an individual's response (Cohen & Lazarus, 1979; Hamburg & Adams, 1967; Holroyd & Lazarus, 1982; Lazarus & Folkman, 1984; Pearlin & Schooler, 1978). Appraisal has been defined as "the evaluative process that imbues a situational encounter with meaning for the person... our sense that something of importance is jeopardized or at stake, as well as our evaluation of the ways opposing demands and options, constraints and resources moderate this sense of jeopardy" (Holroyd & Lazarus, 1982, p. 22). The appraisal process has been described as the key variable in the interrelationship between coping and social support (Heller, Swindle & Dusenbury, 1986).

Factors influencing appraisal can be divided into person and situational variables. Personal factors include commitments and beliefs which shape appraisals by guiding one toward or away from situations based on their perceived level of threat as well as by modulating vulnerability. For example, as commitment to a particular outcome increases, the potential for threat and/or challenge also increases. Situational factors that are thought to influence the degree of threat or challenge an individual perceives during a potentially stressful encounter include novelty, predictability, temporal factors, and uncertainty. To the extent that one is unclear about the meaning of a relatively novel event, ambiguity, uncertainty, and level of threat all increase and sense of control declines (Lazarus & Folkman, 1984).

Relating these situational factors to Alzheimer's Disease results in a picture of a disease which is, at least initially, novel and ambiguous. SDAT is unpredictable as well, given the considerable individual variations and behavioral eccentricities. With the possible exception of the chronic nature of the illness which may provide the opportunity for improved coping and adaptation, these factors have the potential to contribute to a significantly threatening appraisal. There is little doubt that the majority of families of Alzheimer's Disease victims experience significant problems and distress (Leventhal, Leventhal & Van Nguyen, 1985; Mace & Rabins, 1981; Schmidt, 1978; Sainsbury & de Alarcon, 1970).

Nevertheless, families respond to the presence of SDAT in a family member with differing degrees of flexibility and adaptation which result in varying levels of distress and dysfunction (Leventhal, Leventhal & Van Nguyen, 1985; Scott, Roberto & Hutton, 1986).

Together, these personal and situational factors influence the appraisals of a given event as threatening, harmful, challenging and/or positive (Lazarus, 1974). From their study of coping in a middle-aged community sample, Folkman and Lazarus (1980, p. 232) conclude, "How an event was appraised and its context turned out to be the most potent situational factors in accounting for coping variability."

In this transactional model of person-environment interactions, coping is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding a person's resources" (Lazarus & Folkman, 1984, p. 141). It is a process-oriented definition that allows for multi-dimensional determinants and changes over time. The individual struggles to attain and maintain a state of eustress, which is a healthy level of stress which includes adequate but not excessive levels of basic stimulation (Milsum, 1985). Within this conceptualization of coping, two overriding functions are identified. Problem-focused coping is that which is directed at altering or managing the problem. It might include approaching a situation by information-seeking, evaluating alternatives and/or re-framing rewards

to create new sources of satisfaction (Billings & Moos, 1981; Folkman & Lazarus, 1980). The second function of coping is regulating the emotional response to the problem, known as emotion-focused coping. It is most likely to occur following an appraisal that nothing can be done to modify the problem, and to involve tactics such as avoidance, minimization and selective attention. Problem-focused strategies tend to involve situational approach and emotion-focused strategies tend to involve avoidance of a threatening situation. These two functions are dynamically related such that they can facilitate or impede each other in any given situation. Generally, both are implemented to some degree though there is evidence to suggest that there is variability in the relative amounts of each, given a specific person-situation combination (Roth & Cohen, 1986).

The particular strategies one uses and their effectiveness may depend on one's coping resources. These include health and energy (thought to be particularly important in chronic or extreme stressful situations), positive beliefs, problem-solving skills, social skills, material resources and social support (Lazarus & Folkman, 1984). To the extent that these resources aid one in generating effective, realistic appraisals and effective coping through successful emotion and problem management, the likelihood of adaptive outcomes is maximized.

Effective coping with crises and adaptation to change are thought to be facilitated by social support (Cobb, 1976; Cohen & Lazarus,

1979). Numerous empirical studies have linked supportive social interactions with protection against a variety of pathological states ranging from arthritis and tuberculosis to alcoholism and depression (Brown, Bhrolchain & Harris, 1975; Cobb, 1976; Holahan & Moos, 1982; Janis, 1983; Lin & Ensel, 1979). Socially isolated individuals have been posited to be at higher risk for mental disorder than socially integrated people who may benefit from sharing their burden of stress and thereby diffusing it (Eaton, 1978).

Support concerns reported by the caregivers of dementia patients, including the frequent fear of withdrawal from the patient and the caregiver of other family members who might otherwise constitute the primary support network (Dean & Lin, 1977; Lyons, 1982). There is some evidence that families who describe supportive interactions while sharing the problems of caregiving actually feel closer than they did before the Alzheimer's disease developed (Chenoweth & Spencer, 1986; Ory, 1985). It is expected that social support may be a key variable in effective coping among caregivers and that people coping with relatives in different stages of the illness will require different types of support.

Family reactions to illness vary according to the type of illness and its natural history, the identity of the sick person and the point in the individual's life span at which the illness occurs, among other things. The intensity of the threat which an illness presents depends on the family's perceptions of the consequences, duration, and

likelihood of successful coping with the disease (Leventhal, Leventhal & Van Nguyen, 1985). These factors vary by diagnosis. For families facing the diagnosis of Alzheimer's Disease, the level of threat may be closely related to the amount of information they have about the disease. A well-informed family is likely to be intensely threatened by the prospect of the progressive and, ultimately terminal, deterioration associated with SDAT.

As knowledge and understanding increase regarding the interaction between the stress buffering effects of social suppport and the needs of caregivers, the opportunity for primary prevention will increase as well (Dean & Lin, 1977; Lazarus & Folkman, 1984). Social support is a resource which can be cultivated and mobilized for improved coping and stress management.

Method

Sample

Data were collected on 85 female caregivers of people exhibiting symptoms of Alzheimer's Disease or a related dementing illness. This represented an 83 percent participation rate from the original sample. All caregivers were related to the patients, with the majority being either spouses of the patient (n=37) or children of the patient (n=35). They ranged in age from 24 to 83 with a mean age of 55.5. Table 1 outlines caregiver demographics.

Insert Table 1 About Here

Most of the patients (83.5%) had received a diagnosis. The majority of the patients being cared for by the women surveyed (64.7%) had been diagnosed with Alzheimer's Disease, followed by 18.8 percent who had been given another diagnosis such as Presenile Dementia or Organic Brain Syndrome. 16.5 percent of caregivers reported no formal diagnosis had been made at the time of the study but reported their relatives to be exhibiting symptoms of dementia. Patients were not institutionalized.

Procedure

Subjects were recruited primarily through the Alzheimer's Disease and Related Disorders Association of Western New York (ADRDA). Advertisement in the monthly ADRDA newsletter, the various area monthly support group meetings and a variety of local newspapers served to recruit participants. Each set of questionnaires required approximately 40 minutes to complete. Those individuals who agreed to participate were given the packet to complete and return using the enclosed stamped, self-addressed return envelope.

Instruments

Caregiver Information Form (CIF)

The Caregiver Information Form is a 17-item scale developed for this study as a demographic index to gain information on caregiver employment, education, age, sex, marital status, health status, support group attendance, and living arrangements. Also, the CIF

served as a measure of the quality of the caregiver-patient relationship.

The Ways of Coping Checklist - Revised (WCCL; Folkman & Lazarus, 1985) is a 66-item checklist designed to elicit information about the strategies an individual uses to deal with stressful events. An overall coping index based on the proportion of problem-focused versus emotion-focused coping strategies was computed. Eight scales which were developed from repeated factor analysis of the checklist responses from a middle-aged community sample were used (Folkman, Lazarus, Dunkel-Shetter, DeLongis & Gruen, in press). Internal consistency (alpha) coefficients for these scales ranged from .61 to .79 (Folkman et al., in press).

Appraisal was measured by the four general appraisal items used by Folkman and Lazarus (1980) and in the Vitaliano, Russo, Breen, Vitiello & Prinz (1985) study of the WCCL. These items were added to the end of the coping checklist.

Family Relationships Index (FRI; Holahan and Moos, 1982) is an index of the quality of social relationships in the family environment. It was derived from three subscales of the Family Environment Scale (Moos, 1974; Moos & Moos, 1981). The FRI has reasonable internal consistency (Cronbach's alpha = .89) and construct validity as an index of social support (Holahan & Moos, 1982).

The Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982) is a 53-item self-report psychological symptom inventory. It is

essentially the brief form of the SCL-90-R. Alpha coefficients for the nine primary symptom dimensions of the BSI were good, ranging from .71 to .85. Test-retest coefficients across a two-week interval ranged from .68 to .91. Convergent validity for the BSI with the MMPI has been demonstrated and construct validity of the rationally derived dimensional structure has been achieved through factor analysis (Derogatis & Cleary, 1977).

Results

T-tests were calculated to assess the differences between the caregiver distress scores and those of the non-patient, normative sample reported by Derogatis & Spencer (1982). The current caregiver sample seems to be suffering from near-significant levels of alienation, depression, anxiety and hostility. The results indicated that caregivers reported significantly more distress on all scales than the normative sample. Table 2 presents the means and standard deviations for the caregiver BSI scales compared to those of the female, non-patient normative group.

Insert Table 2 About Here

Intra-personal variables were examined first. There were no significant relationships detected between caregiver age, family status, socioeconomic status, employment, and distress. Coping style

was related to health, appraisal, family support, and distress. Problem-focused coping was associated with higher levels of distress than emotion-focused coping. Problem-focused coping, confrontive coping and escape-avoidance coping are strongly correlated with several distress subscales as well as with global distress. Table 3 outlines the correlations between coping scales and distress scores.

Insert Table 3 About Here

Coping scales were correlated with appraisal items. The appraisal of the situation as one "in which you had to hold yourself back" resulted in significantly negative associations with accepting responsibility and escape-avoidance coping scales as well as in a positive correlation with positive reappraisal. Negative relationships were found between the change appraisal and seeking social support, accepting the situation and problem-solving, and needing to know more and accepting responsibility.

Several strong relationships between caregiver health status, coping style, and distress were identified. Health status was related to the majority of distress subscales, as outlined in Table 4. Caregiver health also correlated with coping style. Multiple regression with health as a predictor resulted in a significant portion of the variance in distress being related to health status.

Insert Table 4 About Here

Interpersonal variables included type and quality of caregiver-patient relationship as well as family support. Though type of caregiver-patient relationship did not correlate with distress, the quality of their relationship was significantly associated with health, coping, and distress. Caregiver ratings of both current and past (pre-disease) relationship quality are compared to distress in Table 5. As ratings of current quality declined, global distress increased. Current quality was also correlated with health (r = .32, p <.001) and coping scales. Past relationship quality was highly correlated with current ratings (r = .44, p <.0001).

Insert Table 5 About Here

Family support was related to both distress and coping. Family cohesion and expressiveness were negatively correlated with distress. The global Family Relationships Index was negatively associated with the following distress scales: obsessive-compulsive, depression, anxiety, hostility and psychoticism.

Insert Table 6 About Here

General social support was assessed through reported attendance at support group meetings. Multivariate Analysis of Variance of support group attendance and caregiver distress did not reveal any significant differences in distress among caregivers with different levels of support group attendance.

Multiple regression of the three levels of predictors resulted in the majority of the variance in distress being accounted for by the use of escape-avoidance coping strategies, followed by caregiver health, and family relations, respectively.

Insert Table 7 About Here

Discussion

In general, the quantitative variables examined in the current study (i.e. age, marital status, employment status, frequency of support group attendance...) were less predictive of caregiver distress than the more subjective qualitative variables. This superiority of qualitative variables over quantitative in predicting caregiver distress is consistent with the results of Zarit's (1982) study of burden and distress among caregivers of senile dementia patients. In the present study, caregiver coping style, situational appraisal and self-perceived health status were all significantly related to distress. Though type of caregiver-patient relationship did not predict distress, the quality of their relationship was

associated with caregiver distress, coping, and health. Social support from the family is a salient feature in coping and adaptation among the current sample of caregivers.

The intra-personal variables of escape-avoidance coping and caregiver health accounted for the majority of the variance in caregiver distress. Good health may be a prerequesite for successful coping with the stresses of caregiving. The use of avoidant coping strategies among caregivers was the strongest predictor of caregiver distress in the current study. This association between avoidant coping and distress resembles that found by Keitel (1986) in her study of distress among spouses of cancer surgery patients. She cites the differential use of escape-avoidant coping as a potential explanation for higher levels of distress among spouses when compared to patients.

Valid interpretations of these relationships remain to be discerned from additional studies using multivariate analyses in an attempt to consider multiple interactions. Interpretations of the correlational results presented here must be considered tentative. The current sample was recruited through help-promoting agencies and may be biased as a result. It is also possible that individuals who continue to serve as caregivers do so, on some level, voluntarily. Perhaps the most distressed caregivers are those who no longer continue to care at home. Given the non-random sampling in the current study and the difficulties associated with self-report data, replication is required. Following confirmation of these findings

through replication study, it will be possible to begin to identify high risk groups of caregivers for counseling interventions. For example, caregivers with poor health who favor avoidant coping strategies appear to be at high risk for symptomatic distress. Caregivers whose families lack cohesiveness and expressiveness may also be good candidates for counseling interventions.

Multi-faceted interventions are needed for this population as they struggle with changing needs at various stages of the disease progression. Zarit, Orr, and Zarit (1985) proposed a comprehensive stress-management model for families of dementia patients which focuses on information and problem-solving through individual counseling, family meetings and support groups in order to increase caregivers' problem management skills and social support. The strength of this kind of stress-management model lies in its potential for assisting caregivers and their families to disengage from formal support services over time as they develop increased problem management skills and social support. Such disengagement from the formal support network is thought to be the most cost-effective long-term intervention strategy (Nowak & Brice, 1983). In addition to the economic benefits of bolstering independent caregiver family functioning, improved self-esteem and decreased distress are likely to accompany improved independent functioning for both the caregivers and the care receivers.

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Table 1

Caregiver Demographics

Variable	Mean	Range
Age	55.5	24–83
Number of children	2.41	0–12
	N	%
Marital status:		
Single	6	7.1
Married	66	77.6
Separated	1	1.2
Divorced	7	8.2
Widowed	5	5.9
Education:		
Graduate or prof. degree	16	19.3
Some graduate school	1	1.2
College degree	8	9.6
Some college	16	19.3
High school diploma	31	37.3
< High school diploma	11	13.3
Employment:		
Full-time	28	32.9
Part-time	12	14.1
Not employed	45	52.9
Occupation[a]:		
Professional	4	11.1
Business Official or Manager	8	22.2
Salesperson or Clerical	11	30.6
Service worker	5	13.9
Skilled worker	3	8.3
Unskilled work	3	8.3
Other	2	2.4
Relationship to patient:		
Patient is spouse	37	43.5
Patient is parent	35	41.2
Patient is sibling	4	4.7
Patient is other relative	3	3.5
Patient is in-law	6	7.1
Living arrangements:		
Alone	6	7.1
With patient	34	40.0
With other family	23	27.1
With patient & other family	20	23.5
Other	2	2.4

a: n=36.

Table 2

Means and Standard Deviations for the BSI Scales

BSI Scale	Caregivers		Normative Sample		
	M	SD	M	SD	t-obs
Somatization	.47	.71	.29	.40	2.28 *
Obsessive-Compulsive	.92	.68	.43	.48	4.23 **
Interpersonal Sensitivity	.58	.72	.32	.48	3.96 **
Depression	.89	.82	.28	.46	6.16 **
Anxiety	.83	.72	.35	.45	5.11 **
Hostility	.62	.57	.35	.42	3.87 **
Phobic Anxiety	.23	.45	.17	.36	2.17 *
Paranoid Ideation	.47	.46	.34	.45	1.69 *
Psychoticism	.41	.46	.15	.30	5.43 **
Global Severity Index	.56	.44	.30	.31	3.71 **

* $p < .05$
** $p < .01$

Table 3

Correlations Between Ways of Coping Scales and BSI Scales

	BSI Scales									
Coping Scales	GSI	SOM	O-C	INT	DEP	ANX	HOS	PHOB	PAR	PSY
Problem-focused	.20	.21	.31	.28*	.21*	.18	.06	.33**	.16	.36**
Emotion-focused	.04	.15	.17	.17	.14	-.01	.10	.02	.10	.23*
Confrontive	.25*	.20*	.35**	.49**	.24*	.19	.34**	.24*	.36**	.37**
Distancing	-.11	.18	.05	.07	.06	-.09	.01	-.05	.07	.13
Self-controlling	.16	.16	.21*	.17	.26*	.24*	.14	.21*	.10	.28**
Seeking support	.12	.07	.12	.22*	.10	.02	.01	.18	.02	.15
Accept responsib.	.16	.16	.09	.24*	.22*	.17	.30*	.09	.08	.22*
Escape-avoidance	.42**	.37**	.39**	.38**	.53**	.30**	.43**	.22*	.14	.45**
Problem solving	.15	.31**	.14	.15	.09	.14	-.02	.27**	.06	.30**
Pos.reappraisal	-.12	.04	-.06	.01	-.12	-.15	-.18	.15	.01	.03

Note.
n = 64.
* $p < .05$
** $p < .01$
1-tailed tests of significance

Table 4

Correlations Between BSI Scales and Caregiver Health Rating

BSI Scale	Health Rating
Somatization	-.58***
Obsessive-compulsive	-.17
Interpersonal sensitivity	-.03
Depression	-.35**
Anxiety	-.36**
Hostility	-.26**
Phobic anxiety	-.09
Paranoid ideation	-.05
Psychoticism	-.34**
Global Severity Index	-.41***

* $p < .05$
** $p < .01$
*** $p < .001$

1-tailed tests of significance

Table 5

Correlations Between Quality of Relationship and BSI

BSI Scale	Past Quality	Current Quality
Somatization	-.01	-.20*
Obsessive-compulsive	-.12	-.11
Interpersonal sensitivity	-.23*	-.12
Depression	-.20*	-.26**
Anxiety	-.16	-.24*
Hostility	-.24*	-.34**
Phobic anxiety	-.08	-.09
Paranoid ideation	-.20*	-.05
Psychoticism	-.13	-.07
Global Severity Index	-.19	-.23*

* $p < .05$
** $p < .01$
1-tailed tests of significance

Table 6

Correlations Between FRI Scales and BSI Scales

BSI Scales	Cohesion	Expressiveness	Conflict	FRI
Somatization	-.15	-.13	.01	-.16
Obsessive-compulsive	-.18*	-.29**	-.07	-.30**
Interpersonal sensitivity	-.17	-.16	-.01	-.20*
Depression	-.37***	-.32**	-.01	-.40***
Anxiety	-.25*	-.25*	.16	-.36***
Hostility	-.40***	-.26**	-.20*	-.28**
Phobic anxiety	-.01	-.14	-.21*	-.19*
Paranoid ideation	-.31**	-.13	.19*	-.17
Psychoticism	-.34***	-.28**	-.01	-.36***
Global Severity Index	-.31**	-.29**	-.02	

*$p < .05$
**$p < .01$
***$p < .001$
1-tailed tests of significance.

Table 7

Summary of Findings From Multiple Regressions Predicting Distress

Independent Variable	R^2	Δ in R^2	F-ratio	Beta
Equation One:				
Escape-Avoidance	.1578	.1578	8.246**	.397
Caregiver Health	.2499	.0921	7.163**	-.307
Equation Two:				
FRI	.0757	.0757	5.079*	-.275
Equation Three:				
Escape-Avoidance	.2128	.2128	11.620**	.461
Caregiver Health	.3151	.1023	9.661***	-.324

* $p < .05$
** $p < .01$
*** $p < .001$